



St. Lucie County International Airport (FPR)

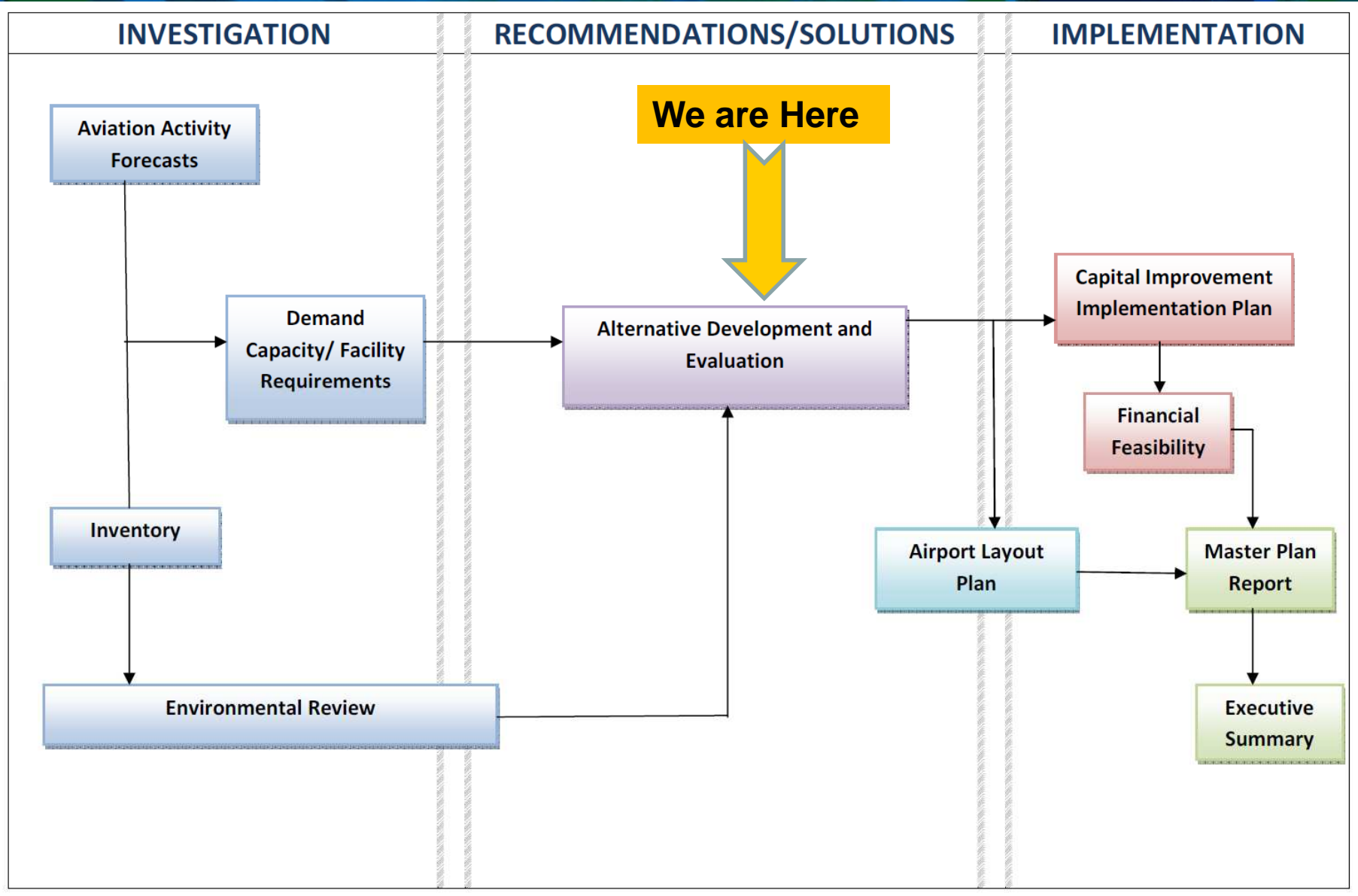
*Master Plan Update
Board of County Commissioners*

December 7, 2009





Master Plan Progress





DRAFT TAC RECOMMENDATIONS

June 30th Workshop



St. Lucie County
International Airport
on Florida's Treasure Coast





Draft Group Recommendations

- ▶ *Relocate Power Lines*
- ▶ *Reserve property west of Runway 10R for Runway Extension.*
- ▶ *Do not extend Runway 28L*
- ▶ *Extend Runway 14 to Northwest*
- ▶ *Short-Term Develop Airport Administration Building and Customs for Commercial Terminal*
- ▶ *Industrial Development North Airport Property*
- ▶ *Improve Surface Access :*
 - ▶ *Expand St. Lucie Blvd and Indrio Road to 4-lanes*
 - ▶ *Improve access to North King's Highway, Florida Turnpike and I-95*
- ▶ *Develop airport as multi-modal facility*
- ▶ *Long-Term -Construct Commercial Terminal Facilities between Runways 10R-28L and 10L-28R*
- ▶ *Coordinate Development with Planned Transportation and Growth Management Development (50 Years)*





PRELIMINARY ALTERNATIVES

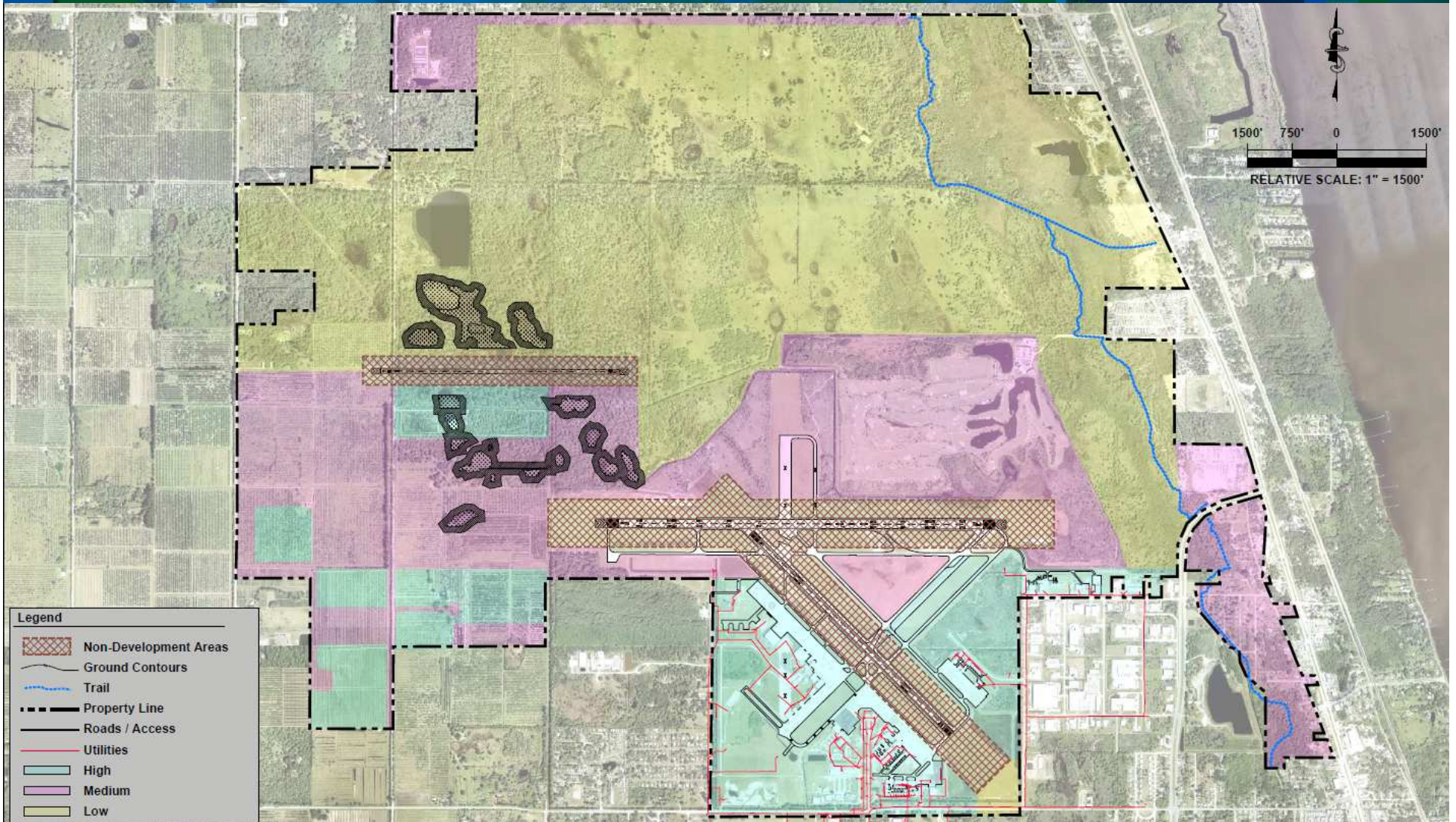


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Development Zones



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Potential Alternative Scenarios

- ▶ *Alternative 1 – General Aviation Only¹*
- ▶ *Alternatives 2A and 2B – Limited Commercial²*
- ▶ *Alternative 3 – Air Carrier Commercial Service²*
- ▶ *Combination of All Three?*
- ▶ *Other Option?*

¹*Includes scheduled aircraft with 9 seats or less and unscheduled aircraft with less than 31 seats*

²*Requires 14 CFR Part 139 Certification. Airport Requirements dependent upon demand and 14 CFR Part 121, 135 and 380 (public charters with more than 31 seats) operating requirements*



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Critical Aircraft – Alternative 1

Airport Design & Role

- ▶ *Gulfstream 550*
 - ▶ *ARC C-III*
 - ▶ *MTOW : 91,000 lbs*
 - ▶ *Gear: Dual Wheel*
 - ▶ *Takeoff Dry: 6,902'; Takeoff Wet: 7,937'*



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Alternative 1 Minimum Requirements

Airfield Facilities

Short-Term Development

- ▶ *Pavement Rehabilitation Runway 10R-28L*
- ▶ *Install ODALS*
- ▶ *Install REILs and PAPIs*
- ▶ *Rehabilitate Taxiway B*

Mid-Term Development

- ▶ *Rehabilitate, Widen* and Strengthen Taxiways A, C, and E*
- ▶ *Extend Runway 14 and Taxiway B*
- ▶ *Upgrade Pavement Runway 10R-28L to 90,000 lbs DW*
- ▶ *Strengthen Apron Pavements*

Support Facilities and Other Facilities/Projects

Short-Term Development

- ▶ *Perimeter Fencing*
- ▶ *Segmented Circle*
- ▶ *Drainage Improvements*
- ▶ *Airport West Commerce Park – Utilities, Infrastructure & Concurrency*

Mid-Term Development

- ▶ *Environmental Assessment – Runway 10R-28L*
- ▶ *Perimeter Fencing*
- ▶ *Drainage Improvements*
- ▶ *Utilities, infrastructure and traffic concurrency*

Phasing Depends upon Demand and Funding Priorities



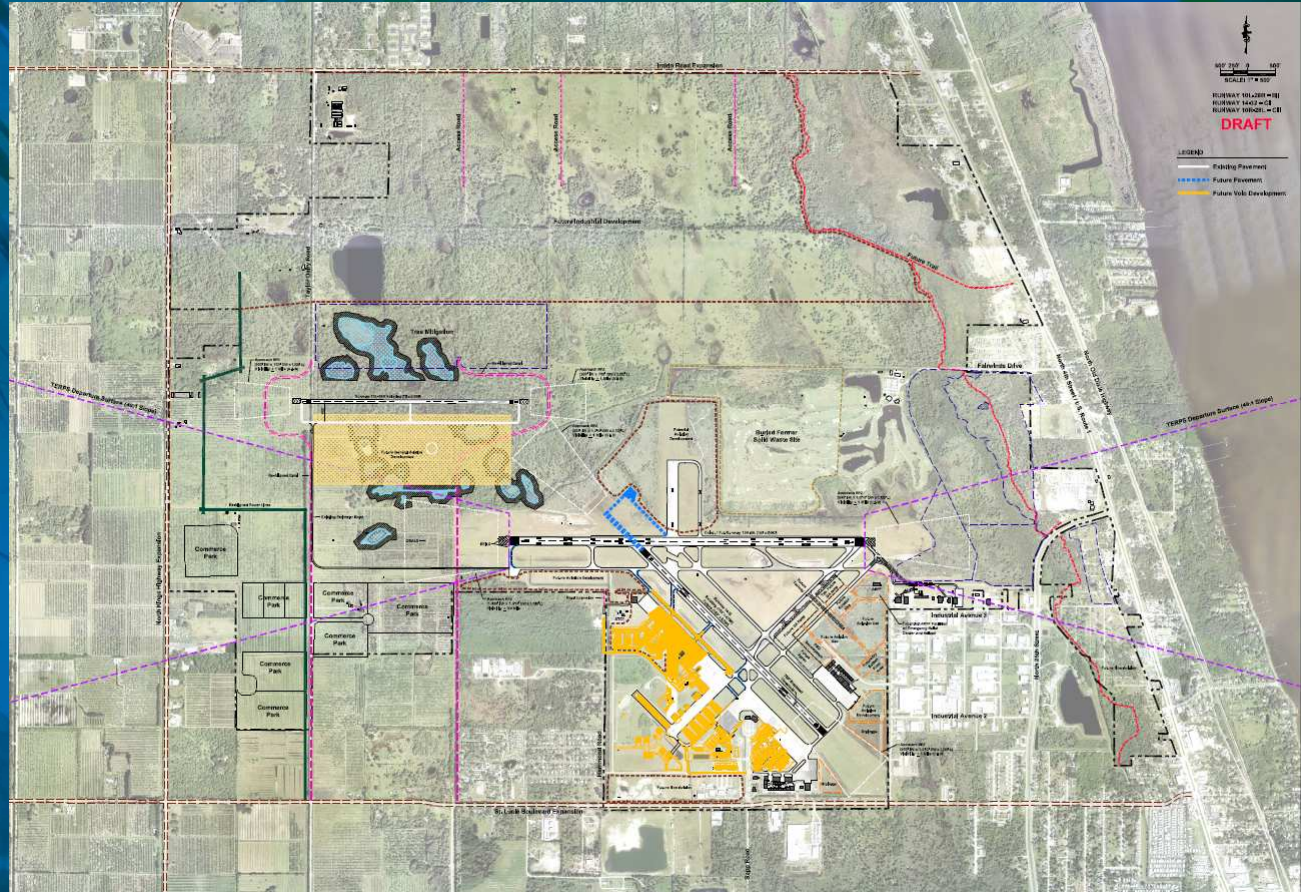
Alternative 1 – General Aviation Development

Strengths

- Accommodates Forecast Demand
- Supports non-aviation and aviation development
- Improves Runway 14 intersection
- Does not require easement or land acquisition
- No relocation of Power Lines

Weaknesses

- Does not provide lower approach threshold
- No airfield connectivity between Runways 10R-28L & 10L-28R
- Impacts drainage
- Shortens Runway 32 & Cannot accommodate commercial service
- Impacts Airport West Commerce Park Development



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Economic Opportunity

- ▶ Grand Bahamas Chamber of Commerce interested in partnership with St. Lucie County
- ▶ Potential air taxi (Part 135) or commercial (Part 121) service between FPR and Bahamas
- ▶ Would be beneficial for the local economy (job creation, tourism revenue, positive airport image, etc.), potentially encouraging future business investments
- ▶ Some upgrades to airport terminal (administration building) and other facilities needed to accommodate commercial service (FAR Part 139, Part 121 and Part 135)



**Bahama Tourism a
Key to our
Economic Recovery**
Airport part of plan



Commercial Airport Classes 14 CFR Part 139

The Purpose of Part 139 is to Ensure Safety in Air Transportation

Type of Air Carrier Operation	Airport Classes			
	I	II	III	IV
Scheduled Large ¹ Air Carrier Aircraft	X			
Unscheduled Large Air Carrier Aircraft ²	X	X		X
Scheduled Small Air Carrier ³ Aircraft	X	X	X	
¹ Large Air Carrier = 31 seats or greater configuration ² Includes Public Charters certified under 14 CFR Part 380 ³ Small Air Carrier = 9 to 30 seats configuration				

Revises a section of an air carrier operation regulation (14 CFR Part 121) to conform with the revised Part 139, which went into effect June 2004.



Sample Airport Part 139 Certification List

Airport Name	New Part 139 Classification	ARFF Index
Fort Lauderdale/Hollywood International	I	E
West Palm Beach International	I	D
Charlotte County Airport	I	A
St. Augustine/St. Johns County Airport	I	A
Athens/Ben Epps Airport, GA	II	A
Four Corners Regional Airport, NM	III	A
Lakeland Linder Regional Airport	IV	A
Vero Beach Municipal	IV	A

Airports within the same Aircraft Class can range in size, facilities and operations based upon operator requirements and passenger demand.



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Commercial Service Requirements

Requirements depend upon the type and level of commercial service

- ▶ *Airport Certification Manual:*
 - ▶ *Airport Emergency Plan (AC 150/5200-31A)*
 - ▶ *Wildlife Hazard Management Plan*
 - ▶ *Airport Personnel and Training Requirements*
 - ▶ *Navigational Aids, Marking and Signage Plan, etc.*
- ▶ *Aircraft Rescue and Firefighting Requirements* (AC 150/5210-6D)*
- ▶ *TSA Security Requirements (49CFR Part 1542)*
- ▶ *Airport Design and Regulatory Requirements:*
 - ▶ *AC 150/5300-13, Airport Design*
 - ▶ *AC 150/5340-1, Markings*
 - ▶ *AC 150/5340-18 & 5345-44F, Signage*
 - ▶ *AC 150/5340-21, 24, 26 & 27A, Lighting*
 - ▶ *AC 150/5340-30C, Visual Navigation Aids*
 - ▶ *AC 150/5200-30A, AC 150/5220-13 & 18, Snow Removal Plan*
 - ▶ *AC 150/5360-13, Terminal Requirements, etc.*



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Critical Aircraft – Alternative 2A

Airport Design

- ▶ *Gulfstream 550*
 - ▶ *ARC C-III*
 - ▶ *MTOW : 91,000 lbs*
 - ▶ *Gear: Dual Wheel*
 - ▶ *Takeoff Dry: 6,902’;*
Takeoff Wet: 7,937’



Commercial or Air Taxi Role

- ▶ *Bombardier DH-8 Q300*
 - ▶ *50 seats*
 - ▶ *MTOW: 43,000 lbs*
 - ▶ *Regulatory Field Length:*
4,541
 - ▶ *ARC B-III*
 - ▶ *Gear: Dual Wheel*



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Alternative 2 Airfield Facilities Minimum Requirements

Short-Term

- ▶ Pavement Rehabilitation Runway 10R-28L
- ▶ Install REILs and PAPIs
- ▶ Rehabilitate Taxiway B
- ▶ Install ODALS

Mid-Term

- ▶ Install MALSR* – Mid-Term
- ▶ Upgrade Runway 10R-28L to HIRLs
- ▶ Upgrade Runway 10R-28L Pavement to 90,000 lbs DW
- ▶ Extend and Strengthen (60,000 lbs DW) Runway 14 and Taxiway B

**Depends upon Aircraft Operator Requirements*

Mid-Term

- ▶ Strengthen Apron Pavement
- ▶ Rehabilitate, Widen* and Strengthen Taxiways A, C, and E
- ▶ Lighted Signage (taxi route, holding position, ILS critical areas, distance to go, runway and taxi identification, etc.)
- ▶ Markings (taxiway centerline, edge, holding position, ILS critical area, SIDA and touchdown zone)
- ▶ Lighting (Centerline pavement reflectors, clearance bar lights, obstruction lights, stop bar lights, edge lighting, etc)

**Only portions of some taxiways need to be widened*

Phasing Depends upon Demand and Funding Priorities



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Other Alternative 2 Minimum Requirements

Terminal/Support Facilities

Short-Term

- ▶ *Perimeter Fencing*
- ▶ *Segmented Circle*
- ▶ *High Intensity Beacon*
- ▶ *Reconfigure Airport Administration Building to Terminal Facilities*

Mid-Term

- ▶ *Perimeter Road and Fencing*
- ▶ *Additional ARFF Equipment and Materials*
- ▶ *Runway Visibility Range (Transmissometer)*
- ▶ *Expand US Customs Facilities*

Other Facilities/Projects **Short-Term**

- ▶ *Environmental Assessment – Runway 10R-28L*
- ▶ *Drainage Improvements*
- ▶ *Airport Commerce Park – Infrastructure & Utilities*

Mid-Term/Long-Term

- ▶ *Relocate Power Lines (Alternative 2B only)*
- ▶ *Airport Operating Certificate and Airport Certification Manual*
- ▶ *Drainage Improvements*
- ▶ *Utilities, infrastructure and traffic concurrency*
- ▶ *Personnel Training, Badging, etc.*

Phasing Depends upon Demand and Funding Priorities



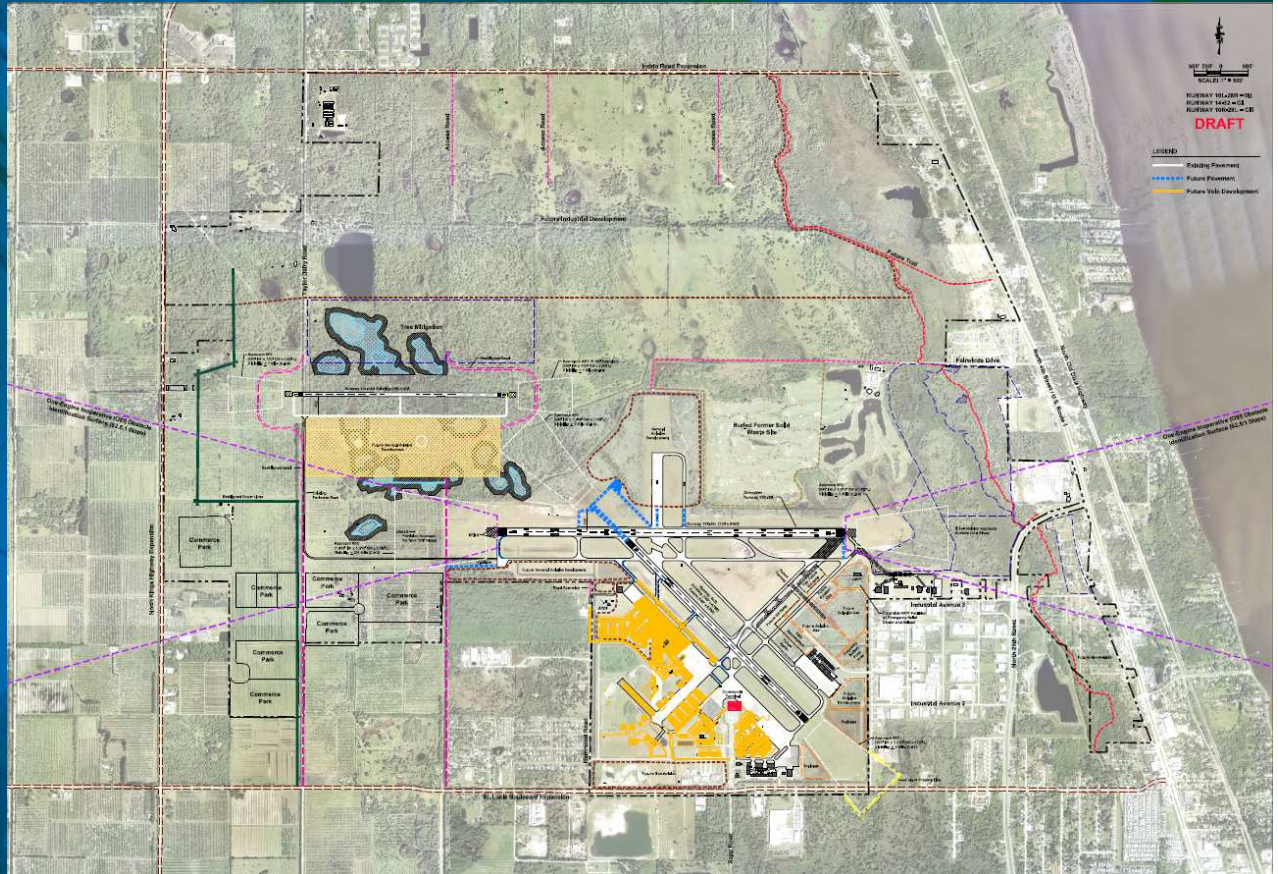
Alternative 2A – Limited Commercial

Strengths

- Accommodates limited commercial service and General Aviation Demand
- Supports non-aviation and aviation development
- Improves Runway 14 intersection
- *Does not require relocation of Power Lines*

Weaknesses

- Does not provide lower approach threshold
- No airfield connectivity between Runways 10R-28L and 10L-28R
- Impacts drainage
- Requires land acquisition/easements
- Impacts Airport West Commerce Park Development



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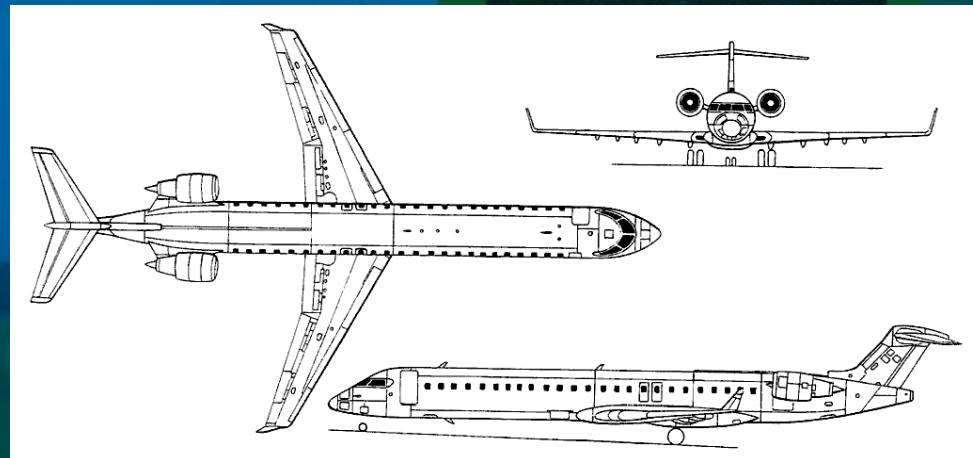
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Critical Aircraft – Alternative 2B

Airport Design & Commercial Role

- ▶ **CRJ-900ER**
 - ▶ Seats: 86
 - ▶ MTOW: 82,500 lbs
 - ▶ Gear: Dual Wheel
 - ▶ 90% LF Takeoff Weight: 5,570'
 - ▶ Regulatory Landing Field Length (Part 121 & 135)
 - ▶ Dry: 6,054'
 - ▶ Wet: 6,962'



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Terminal Option 1

STANDARD FAA REQUIREMENTS	
SPACE BEHIND TICKET COUNTER	8' - 10' TYPICAL
QUEUING DEPTH @ TICKET COUNTER	12' - 15' TYPICAL
MINIMUM CIRCULATION DEPTH IN LOBBY BEHIND TICKET COUNTER QUEUING	20' MINIMUM
QUEUING SQUARE FOOTAGE FOR 50 PASSENGERS BEHIND TICKET COUNTER	750 SQ FT RECOMMENDED
QUEUING SQUARE FOOTAGE FOR 50 PASSENGERS BEHIND TICKET COUNTER	750 SQ FT RECOMMENDED
SQUARE FOOTAGE FOR 50 PASSENGERS IN LOBBY	1000 SQ FT RECOMMENDED
SQUARE FOOTAGE FOR 50 PASSENGERS IN HOLD ROOM	538 SQ FT RECOMMENDED

EXISTING AREA 3,504.0 SQ.FT.
 NEW AREA 3,729.0 SQ.FT.
 AIR SIDE COVER ENTRY 193.0 SQ.FT.
 LAND SIDE CURVE SIDE 731.0 SQ.FT.
 BAGGAGE MAKE UP 275.0 SQ.FT.
 TOTAL BUILDING 8,432.0 SQ.FT.



1 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



PROPOSED FLOOR PLAN
SCALE: 1/8" = 1'-0"



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Terminal Option 2



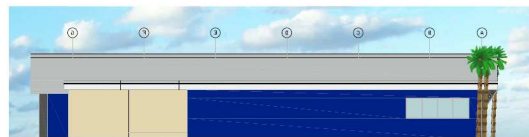
1 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



2 EAST ELEVATION
SCALE: 1/8" = 1'-0"



3 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



4 WEST ELEVATION
SCALE: 1/8" = 1'-0"

STANDARD FAA REQUIREMENTS	
SPACE BEHIND TICKET COUNTER	8' - 10' TYPICAL
QUEUING DEPTH @ TICKET COUNTER	12' - 15' TYPICAL
MINIMUM CIRCULATION DEPTH IN LOBBY BEHIND TICKET COUNTER QUEUING	20' MINIMUM
QUEUING SQUARE FOOTAGE FOR 50 PASSENGERS BEHIND TICKET COUNTER	750 SQ. FT. RECOMMENDED
QUEUING SQUARE FOOTAGE FOR 50 PASSENGERS BEHIND TICKET COUNTER	750 SQ. FT. RECOMMENDED
SQUARE FOOTAGE FOR 50 PASSENGERS IN LOBBY	1000 SQ. FT. RECOMMENDED
SQUARE FOOTAGE FOR 50 PASSENGERS IN HOLD ROOM	538 SQ. FT. RECOMMENDED

EXISTING AREA	3,504.0 SQ.FT.
NEW AREA	3,377.0 SQ.FT.
AIR SIDE COVER ENTRY	193.0 SQ.FT.
LAND SIDE CURVE SIDE	838.0 SQ.FT.
BAGGAGE MAKE UP	135.0 SQ.FT.
TOTAL BUILDING	8,047.0 SQ.FT.



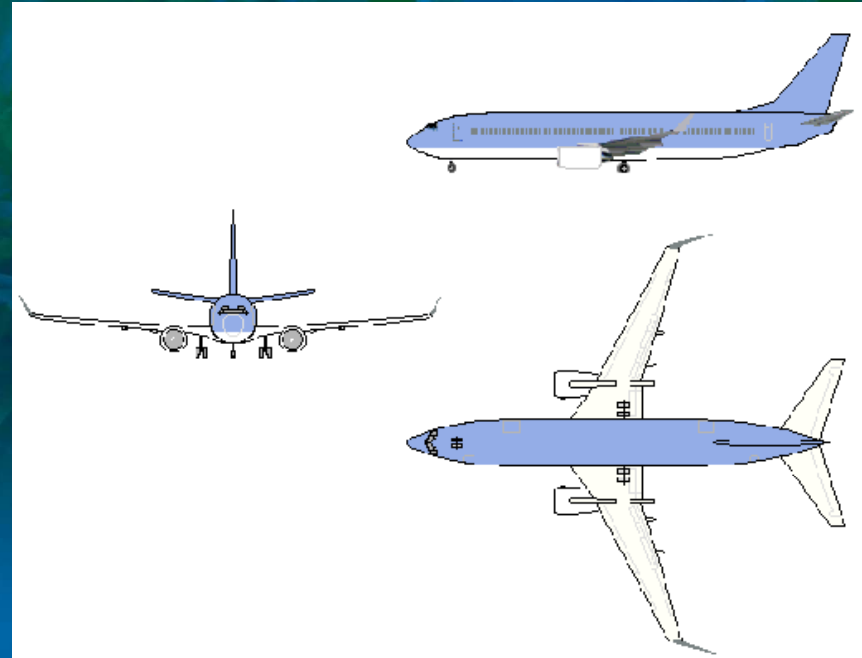
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Critical Aircraft – Alternative 3

Airport Design & Commercial Role

- ▶ *Boeing 737-800*
 - ▶ *Seats: 162-189*
 - ▶ *MTOW: 174,200*
 - ▶ *Gear: Dual Wheel*
 - ▶ *ARC C-III*
 - ▶ *Regulatory Field Length @ MTOW: 8,150 ‘*



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Alternative 3 Airfield Minimum Projects

Short-Term

- ▶ Pavement Rehabilitation Runway 10R-28L
- ▶ Install ODALS
- ▶ Install REILs and PAPIs
- ▶ Rehabilitate Taxiway B pavement

Mid-Term

- ▶ Rehabilitate, Widen* and Strengthen Taxiways A, C, and E
- ▶ Lighted Signage (taxi route, holding position, ILS critical areas, distance to go, runway and taxi identification, etc.)
- ▶ Markings (taxiway centerline, edge, holding position, ILS critical area, SIDA and touchdown zone)
- ▶ Lighting (Centerline pavement lights, lead in and out lights, clearance bar lights, obstruction lights, stop bar lights, edge lighting, etc)
- ▶ Install MALSR & Upgrade Runway 10R-28L to HIRLS
- ▶ Strengthen Runway 10R-28L to 90,000 lbs
- ▶ Strengthen Existing Apron Pavements
- ▶ Construct Connector Taxiway – 10R to 28R
- ▶ Extend, Rehabilitate and Strengthen Runway 14 and Taxiway B – 60,000 lbs DW

Mid-Term

- ▶ Construct partial parallel taxiway north of Runway 10R and holding pad near Runway 14 threshold

Long-Term and Beyond

- ▶ Extend Runway 10R-28L to 8,000 feet and upgrade pavement to 300,000 lbs DTW (150,000 lbs DW)
- ▶ Extend and Strengthen Taxiway A
- ▶ Construct additional connector taxiway to Terminal Apron facilities from Partial North Runway 10R Taxiway
- ▶ Construct Terminal and General Aviation Aprons adjacent to Runway 10L-28R

Phasing Depends upon Demand and
Funding Priorities



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Alternative 3 Minimum Projects

Terminal/Support Facilities

Short-Term

- ▶ *Perimeter Fencing and Road*
- ▶ *Segmented Circle*
- ▶ *High Intensity Beacon*
- ▶ *Upgrade Existing Terminal and Customs Facilities*
- ▶ *Acquire Additional ARFF Equipment and Materials*

Mid-Term

- ▶ *Construct Satellite ARFF facility and obtain additional ARFF Equipment and Materials*
- ▶ *Runway Visibility Range (3-Transmissometers)*
- ▶ *Expand ATCT*
- ▶ *Construct New Terminal and Customs Facilities*

Other Facilities/Projects

Short-Term

- ▶ *Environmental Studies*
- ▶ *Drainage Improvements*
- ▶ *Airport Operating Certificate, Airport Certification Manual, Wildlife Hazard Management, Emergency Plan and Exercises, etc.*
- ▶ *Personnel Training and Badging, etc*

Mid-Term/Long-Term*

- ▶ *Relocate Power lines*
- ▶ *Environmental Studies*
- ▶ *Drainage Improvements*
- ▶ *Part 150 and Airport Master Plan Updates*
- ▶ *Utilities, infrastructure and traffic concurrency*
- ▶ *Personnel Training and Badging, etc.*

***Phasing depends upon Demand and Funding Priorities**



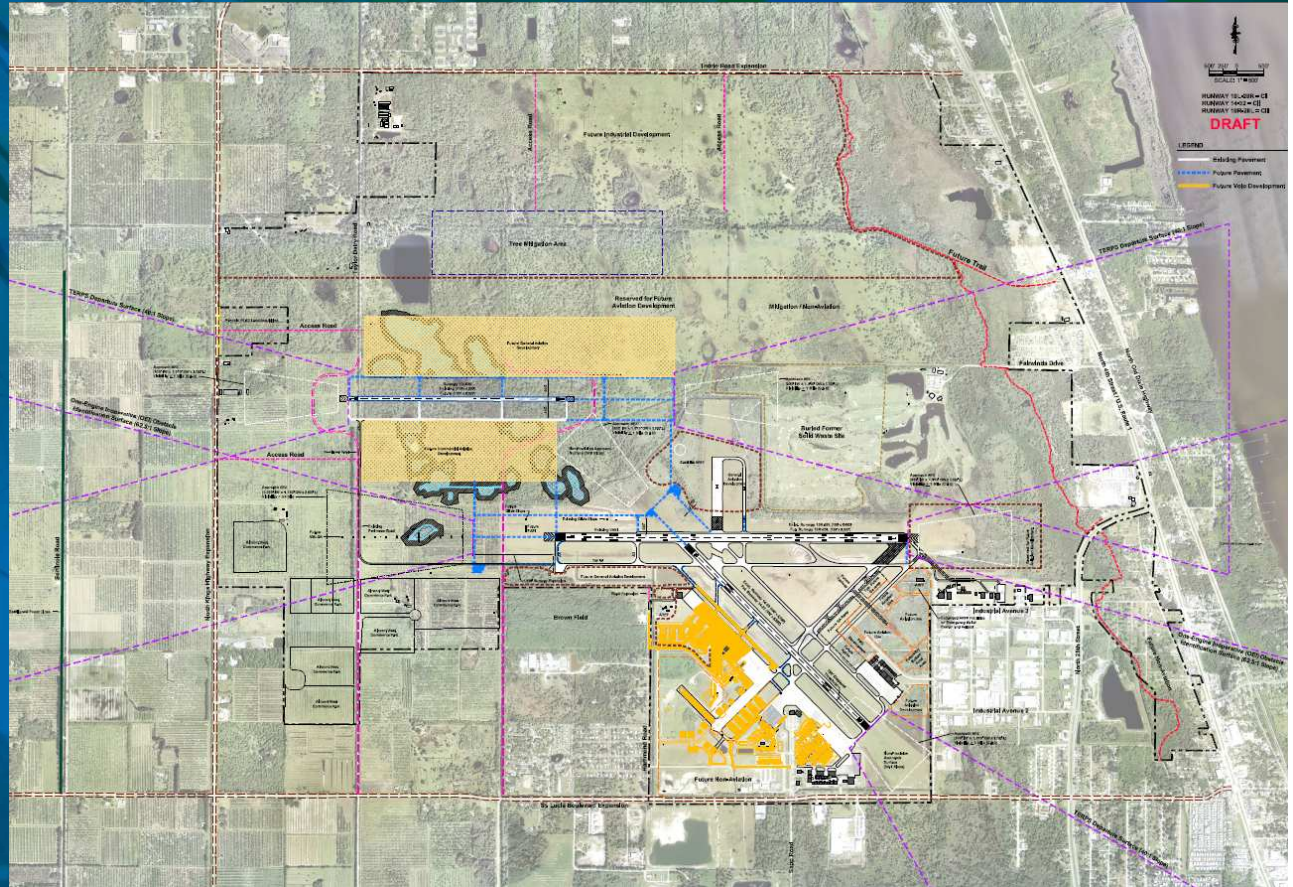
Alternative 3 – Commercial Service

Strengths

- Reserves for Future Development beyond 20-years
- Provides for lower visibility minima
- Accommodates Commercial Requirements and Forecast Demand
- Supports non-aviation and aviation development
- Improves Runway 14 intersection
- Allows for future expanded service if warranted
- Increased airfield flexibility
- Provides connectivity within airfield

Weaknesses

- Long-Term Costs
- Drainage & Environmental Impacts
- Impacts Airport West Commerce Park Development
- Requires relocation of Power Lines (beyond 2028 timeframe)
- Shortens Runway 32



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Draft Alternative Matrix

Airfield Evaluation Criteria	Alternatives			
	1	2A	2B	3
Resolves Runway Object Free Issue	X	X	X	X
Accommodates ARC C-III aircraft	X	X	X	X
Lowers approach minima			X	X
Addresses Long-Term Operational Capacity	X	X	X	X
Accommodates Commercial Service		X	X	X
Land Acquisition/Easement		X	X	X
Environmental Impacts	X	X	X	X
Drainage Impacts	X	X	X	X
Relocation of Power Lines			X	X
Estimated Order of Magnitude Costs (in millions)	\$72	\$73.2	\$80	\$99.7



TAC RECOMMENDATIONS

*Future Airport Development
October 14th Workshop*





Key TAC Recommendations

- ▶ *Implement NextGen technology to address noise abatement.*
- ▶ *Use **Alternative 2A**, Limited Commercial Development, as base for Airport Layout Plan, but Preserve Areas for Long-Term Development.*
- ▶ *Pursue long-term relocation of FPL Power Lines to Seminole Road.*
- ▶ *Pursue short and mid-term pavement improvements.*
- ▶ *Implement facilities in support of limited commercial development, and*
- ▶ *Continue to pursue development in support of airport self sufficiency.*



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TAC Recommended Long-Term Development

- ▶ *Short-Term Development (2009-2013)*
- ▶ *Mid-Term Development (2014-2018)*
- ▶ *Long-Term Development (2019-2029)*
- ▶ *Beyond 20-Year Planning Period*

*Project Phasing Ultimately Depends upon
Need and Available Funding*





Preferred Airfield Minimum Projects

Short-Term

- ▶ Pavement Rehabilitation Runway 10R-28L *
- ▶ Install MALS or ODALS
- ▶ Install REILs and PAPIs
- ▶ Construct Taxiway A holding pad
- ▶ Rehabilitate and Widen* Taxiways A, B C, and E
- ▶ Preserve Airport Property for future aviation development (Runway 10R, 28L, and 28R)
- ▶ Preserve Airport Property for Future Aviation Development

Mid-Term

- ▶ Strengthen Taxiways A, B , C, and E to 90,000 lbs DW
- ▶ Lighted Signage (taxi route, holding position, ILS critical areas, distance to go, runway and taxi identification, etc.)
- ▶ Markings (taxiway centerline, edge, holding position, ILS critical area, SIDA and touchdown zone)
- ▶ Strengthen Runway 10R-28L to 90,000 lbs DW
- ▶ Strengthen Existing Apron Pavements
- ▶ Extend, Rehabilitate and Strengthen Runway 14 – 60,000 lbs DW
- ▶ Install REILs and PAPIs

Mid-Term

- ▶ Construct Taxiway B holding pad
- ▶ Extend Taxiway A-3 and construct holding pad
- ▶ Extend Taxiway A to Airport West Commerce Park

Long-Term and Beyond

- ▶ Extend and Strengthen Taxiway A
- ▶ Construct 2,500 SY GA Apron
- ▶ Construct North-South Connector Taxiway – Runway 10R to Training Runway (10L-28R)
- ▶ Lighting (Centerline pavement lights, lead in and out lights, clearance bar lights, obstruction lights, stop bar lights, edge lighting, etc)
- ▶ Construct partial north parallel taxiway (Runway 10R)



Phasing Depends upon Demand and Funding Priorities





Preferred Development

Terminal/Support Facilities

Short-Term

- ▶ Perimeter Fencing and Road
- ▶ High Intensity Beacon
- ▶ Upgrade Existing Terminal and Customs Facilities and expand automobile parking
- ▶ Rehabilitate ATCT
- ▶ Relocate Lighted Segmented Circle

Mid-Term

- ▶ ARFF Emergency Response Facilities (includes helipad)
- ▶ Acquire easement – Runway 32
- ▶ Expand Electrical Vault
- ▶ Expand Perimeter Road

Long-Term and Beyond

- ▶ Expand Fuel Facilities
- ▶ Security and Airport Access Improvements, etc.

Other Facilities/Projects

Short-Term

- ▶ Environmental Studies & Drainage Improvements
- ▶ Airport Operating Certificate, Airport Certification Manual, Wildlife Hazard Management, Emergency Plan and Exercises, etc.
- ▶ Personnel Training and Badging, etc
- ▶ Non-Aviation Development (AWCP)

Mid-Term/Long-Term*

- ▶ Environmental Studies & Drainage Improvements
- ▶ Part 150 and Airport Master Plan Updates
- ▶ Utilities, infrastructure and traffic concurrency
- ▶ Construct T-Hangars and Conventional Hangars
- ▶ Tree, Wetland and Gopher Tortoise Mitigation
- ▶ Acquire Parcels 40-42

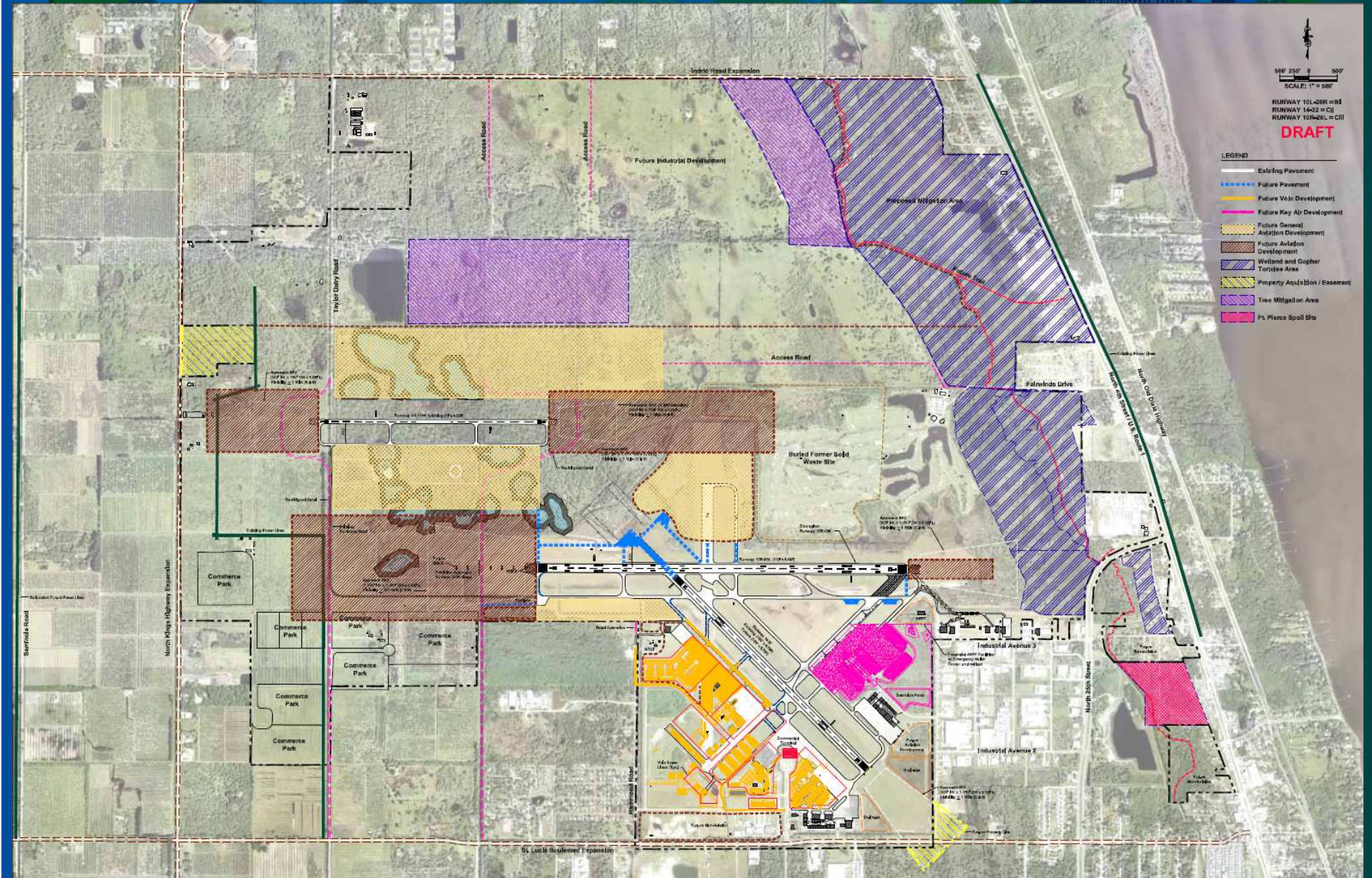


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***Phasing depends upon Demand
and Funding Priorities**







Next Steps

- ▶ BOCC Input
- ▶ Finalize Alternatives Chapter
- ▶ Develop Airport Layout Plan
- ▶ Develop Capital Improvement Program and Cash Flow Analyses.

Study Reports, Presentations, Meeting Information, FAQs, and Comment Forms available on County Website

www.stlucieco.gov/airport_masterplan



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QUESTIONS AND COMMENTS

